

## OLYMPIC COAST NATIONAL MARINE SANCTUARY

A REPORT FOR SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: SEPTEMBER 26, 2014 – OCTOBER 31, 2014

### ABOUT THE SANCTUARY

Olympic Coast National Marine Sanctuary spans 3,189 square miles of marine waters off the rugged Olympic Peninsula coastline. The sanctuary extends 25 to 50 miles seaward, covering much of the continental shelf and several major submarine canyons.

The sanctuary protects a productive upwelling zone - home to rich marine mammal and seabird faunas, diverse populations of kelp and intertidal algae, and thriving invertebrate communities. The sanctuary is also rich in cultural resources, with over 150 documented historical shipwrecks and the vibrant contemporary cultures of Makah, Quileute, and Hoh Indian Tribes, and Quinault Nation.

invited to the community celebration.

### OFFICE REPORT

#### OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

Organized based on the Olympic Coast National Marine Sanctuary (OCNMS or sanctuary) management plan priority areas.

#### TREATY TRUST RESPONSIBILITY

##### OCNMS Leadership Attends Celebration of Grand Opening of Makah Dock

Makah Tribe held the grand opening of the Makah Dock, a major infrastructure investment for the tribe. The \$13.7 million dollar state-of-the-art facility will provide critical facilities for the Makah fishing fleet, which supports approximately 400 jobs and represents 50% of the local economy. The facility can also support an oil spill response, improving the protection of natural resources shared by Makah Tribe and Olympic Coast National Marine Sanctuary. Sanctuary staff was honored to be

### ACHIEVE EFFECTIVE AND COORDINATED MANAGEMENT

#### Sanctuary Participation in Earthquake and Tsunami Evacuation and Preparedness Workshop

The OCNMS Education Specialist attended the Cascadia EarthScope Earthquake and Tsunami Evacuation and Preparation (CEETEP) four-day workshop for educators, held at Olympic Natural Resource Center in Forks. With a combination of classroom teachers, park and museum interpreters, and emergency management personnel, the workshop was intended to allow for collaboration across the field of education, as well as impacting a larger community audience for earthquake and tsunami evacuation and preparedness. Facilitators of the workshop included plate tectonics specialists, geologists, middle school classroom teachers, and Hatfield Marine Science Center education and policy staff, with special field trip staff Brian Atwater and David Yamaguchi. Along with a strong emphasis on the science of plate tectonics and tsunamis, the information was supported with engaging activities for learners of all ages, appropriate for classrooms and visitor centers. The workshop participants were divided into action groups intended to provide community-wide collaboration for earthquake and tsunami education. The local action group, including OCNMS, Port Angeles High School and Middle School teachers, and Clallam County Emergency Management staff, will be collaborating on two community events. Local students will become ambassadors of the information and bring tsunami experts and traditional storytelling artists to events, to engage the public on this important topic.

#### Sanctuary Reviews Key Environmental Documents

Olympic Coast National Marine Sanctuary (OCNMS) reviewed and submitted comments on the Northwest Area Contingency Plan (NWACP) and the scoping comments for a Washington State Environmental impact statement (EIS) for a proposed project in Grays Harbor. The NWACP is the oil spill response plan for the coastal and inland zones of Idaho, Oregon and Washington. If there was an oil spill in the sanctuary the response would be guided by the policies and plans articulated in this document. The NWACP is updated on a regular basis and was reviewed for issues of importance to OCNMS. Staff also provided comments on the scoping for the Grays Harbor Rail Terminal Project (GHRT) Environmental impact statement (EIS). This project is one of several related to an anticipated increase in the shipment of crude oil by rail in Washington State. There is a concern that this may lead to increased risk of oil spills. Comments were similar to those previously submitted on proposals for two bulk liquid facility projects in Grays Harbor.

### Seafloor Mapping Prioritization Workshop

Olympic Coast National Marine Sanctuary staff supported and participated in a Seafloor Mapping Prioritization Workshop sponsored by Washington State in support of their Marine Spatial Planning Process. OCNMS Geographer was part of the technical team that planned the workshop. Regional resource managers and technical staff were briefed on a proposed process for prioritizing different areas for mapping based on management needs.

### Pacific Northwest B-WET Hosts Workshops in Oregon and Washington

Pacific Northwest Bay-Watershed Training (PNW B-WET) Program hosted workshops in Newport, OR and Seattle, WA to inform regional organizations about the FY2015 Federal Funding Opportunity. Twenty-four participants attended the workshops in person or by webinar. PNW B-WET is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences (MWEEs) for students and teachers. The full FY2015 Federal Funding Opportunity can be found at Grants.gov under funding opportunity number NOAA-NOS-NMS-2015-2004225.

### Olympic Coast Sanctuary Welcomes NOAA Ship Oscar Dyson to Port Angeles

OCNMS provided shore support and transportation to NOAA Ship Oscar Dyson as they visited *en route* to Newport, OR at the end of their field season. The ship welcomed sanctuary staff aboard for a tour and the incumbent OCNMS Vessel Operations Coordinator, currently serving aboard the Dyson, was able to conduct a site visit and meet OCNMS staff. The Oscar Dyson has supported OCNMS opportunistically by conducting a critical multibeam survey to locate reported debris in the sanctuary at the beginning of the field season this year.



### Archiving Olympic Coast Sanctuary Deep Sea Coral and Sponge Videos and Databases

OCNMS Research Coordinator convened a conference call to confirm that NOAA's Deep Sea Coral Research & Technology Program (DSCRTP) had all of OCNMS's databases from 2006-2011 on deep-sea corals and sponges with data from 2010 to be sent later. The group also discussed the need to ensure that archives of all videos of DSCs collected in OCNMS be preserved off site. It was agreed that the NCCOS facility in Charleston would be the repository for these valuable resources, especially for future data-mining needs.

## CONDUCT COLLABORATIVE RESEARCH, ASSESSMENTS AND MONITORING TO INFORM ECOSYSTEM-BASED MANAGEMENT

### Olympic Coast National Marine Sanctuary Concludes Field Season on Outer Coast



OCNMS recovered all ten oceanographic moorings deployed in June and began post-processing data. This year OCNMS noted a longer deployment than in previous years and no damage to, or loss of, instruments. Early in the field season, the vessel crew was fortunate to recover a mooring lost in 2013 which became entangled in one of this year's moorings while it was being serviced. Data from this summer's four month deployment will be made available to the public via the OCNMS website. These data can be used in coastal models in partnership with NOAA and universities in the region.

## IMPROVE OCEAN LITERACY

### Olympic Coast Sanctuary Participates in Local Crab and Seafood Festival

Olympic Coast National Marine Sanctuary took part in the 13<sup>th</sup> annual Dungeness Crab and Seafood Festival in Port Angeles on Oct. 10-12<sup>th</sup> ([www.crabfestival.org](http://www.crabfestival.org)). Sanctuary staff and volunteers hosted an educational booth on general sanctuary information and presented and led hands-on activities on ocean acidification. Ocean acidification has and will continue to impact local and regional shellfish and related organisms that use calcium carbonate to build their shells. The event drew between 10,000-15,000 people from the area, as well as other parts of the U.S. and Canada.

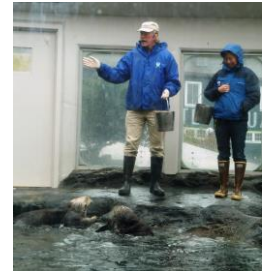


### **Sanctuary Staff Deliver Ocean Acidification Presentation and Discovery Center Tour with NatureBridge Students**

OCNMS Education Specialist presented on ocean acidification to nine 4th-6th grade students and two adults from the Montessori school of Bainbridge Island. Students engaged in activities and games encouraging problem-solving and critical thinking about the issue of ocean acidification (OA). After an introduction about OA, students played interactive games to demonstrate the effects of OA on shellfish and organisms dependent on calcium carbonate, and the impacts on the marine food web. Through the educational activities students were able to consider the role humans play in the health of our communities. Students then visited Olympic Coast Discovery Center, the sanctuary's public visitor center, where they conducted a scavenger hunt.

### **Sea Otter Awareness Weekend Event at Seattle Aquarium**

Olympic Coast National Marine Sanctuary Research Coordinator was an invited speaker at The Seattle Aquarium for its Sea Otter Awareness Weekend event on September 27 (<http://www.seattleaquarium.org/sea-otter-awareness>). As the featured sea otter expert he staffed an education table with display materials while interacting with hundreds of visitors. Later while feeding the aquarium's sea otters, Ed fielded questions concerning wild sea otters in Olympic Coast National Marine Sanctuary from an audience of more than 40 people.



### **Olympic Coast Sanctuary Hosts Students for Marine Debris Presentation**

OCNMS education staff presented on marine debris and ocean currents to 88 students and 25 adults as part of a NatureBridge Olympic field science program. The 6<sup>th</sup> and 7<sup>th</sup> grade students from Spokane learned about the sanctuary and how all watersheds are connected to the marine environment. Following a discussion about the source of marine debris and ocean currents, the students investigated the health of our marine waters through dissecting albatross boluses from the northwestern Hawaiian Islands. Sorting the bolus contents into natural and non-natural prey items, the students brainstormed positive actions we can take as individuals and communities to reduce marine debris.

### **Olympic Coast National Marine Sanctuary Participates in Dungeness River Festival**



Sanctuary educators staffed an information and education booth at the 15<sup>th</sup> annual Dungeness River Festival (<http://dungenessrivercenter.org/RiverFestival.html>) September 26-27 in Sequim. Participants learned from replica skulls of marine salmon predators, including an orca, sea lions, a porpoise, and seals. Over 3,000 visitors attended the Dungeness River Festival, hosted by the Dungeness River Audubon Center. More than 800 grade school students from the area attended the festival for "Kid's Day" on Friday, where OCNMS provided the opportunity to identify replica skulls using images of marine mammals while learning about salmon predators in the marine environment, as well as general information about our sanctuary. The festival focused on the connection of a healthy environment for healthy communities. Nature walks, presentations, entertainment, food, activities,

and informational booths were available to visitors.

### **Sanctuary Staff Educate about Marine Mammals**

OCNMS Education and Stewardship Specialist presented on marine mammals and marine debris to 36 students and four adults as part of a NatureBridge Olympic field science program. The 4<sup>th</sup> and 5th grade students from Seattle learned about OCNMS and the marine mammals inhabiting or migrating through, as well as the challenge of marine debris in our marine environment. After an interactive presentation, including games and hands-on activities, students discussed positive actions we can take as individuals and communities to reduce the problem of marine debris in our environment.

### **Sanctuary Staff Host Seattle High School Students for Beach Surveys**

OCNMS Education staff partnered with local natural resource students and their teacher, Dan Lieberman, to host visiting tenth graders from Seattle High School on a hydrology field trip. OCNMS staff met with the 22 students and four adults at the Elwha River beach to discuss ocean currents and marine debris. The group discussed common debris items, movement of debris in our ocean environment, impacts of marine debris, and looked at the current NOAA marine debris survey protocol. They then discussed the pilot marine debris protocol recently rolled out by Coastal Observation and Seabird Survey Team (COASST). Following the discussion, the group met local Skills Center Natural Resource teacher Dan Lieberman and his students, where they conducted a COASST survey, a NOAA marine debris survey, a CoastSavers marine debris survey, and a kelp rock survey for Dr. Ian Miller. The natural resource students acted as team leaders with each student leading teams of Seattle students through the survey protocols of collecting and recording data.

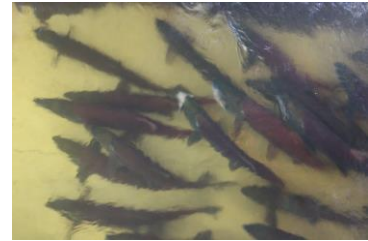


### **Sanctuary Staff Attend and Present at Olympic Peninsula Tourism Summit**

The Olympic Peninsula Tourism Commission held its annual Olympic Peninsula Tourism Summit at Fort Worden, Port Townsend WA, on October 22nd. OCNNS education staff presented at a vendor table, with sanctuary information and brochures, while building outreach connections with our outer coast businesses and visitor centers. The summit provided tourism highlights of the previous year, a roll out introduction of the Olympic Peninsula's brand strategy, and several marketing strategies to reach the target audience visiting the Olympic Peninsula. With a record attendance of over 150 regional chambers, businesses, and organizations, the summit offered a wide network of outreach capability and complementary partners.

### **Sanctuary Participate in Lake Ozette Sockeye Salmon Event**

OCNMS Education staff supported the 2014 Lake Ozette Sockeye Salmon event on November 1, with an outreach activity and information table. The intent of this annual outreach event is to showcase restoration needs and efforts for a healthy Lake Ozette sockeye salmon population to the local community. Outreach vendors included OCNMS, Olympic National Park, NOAA Fisheries, and the Makah Tribe Fisheries. OCNMS focused on the marine environments, one of the habitats of the Sockeye salmon's life history, and provided information and activities on marine plankton and the marine food web, where Sockeye salmon play are both predator and prey.



## **CONSERVE NATURAL RESOURCES IN THE SANCTUARY**

### **Sanctuary Staff Attend West Coast Marine Mammal Stranding Network Regional Meeting**

Sanctuary staff involved in stranding response attended the annual meeting of the West Coast Marine Mammal Stranding Network on October 20-21. The meeting included presentations on marine mammal diseases, commercial fishery-marine mammal interactions, NOAA law enforcement, disentanglement response, and rehabilitation capacity in the region. Participants in the Stranding Network facilitate reporting of marine mammal stranding and mortality and collection of data from dead animals to advance our understanding of natural history, diseases, human interactions, and other causes of mortality. In the coming months, sanctuary staff will work to improve the frequency and timeliness of stranding reporting on the outer coast of the Olympic Peninsula, an area where the relatively low levels of human visitation and remote character have contributed to low reporting of stranding incidents.

## **SANCTUARY PERMITTING**

### **Issued Permits and Resolved Applications**

**OCNMS-2014-006** – Brad Hanson, NOAA Fisheries NW Fisheries Science Center

**Project Title:** Determining the Distribution of Killer Whales and Other Cetaceans in the Coastal Waters of the U.S. Using Acoustic Recorders.

**Permitted Activity:** Disturbance of the seafloor from deployment of seven acoustic moorings and abandonment of anchor weights with annual instrument servicing

**Project Location:** Four moorings approximately 3 miles offshore between the international border and Cape Elizabeth, and 3 moorings located in deeper waters of the sanctuary

**Permit Duration:** 5 years, through December 2019

**Comment:** This permit focuses on research on the distribution of the Southern Resident killer whales off Washington's outer coast. Relatively little is known about the winter movements and range of the Southern Resident population. Data from the proposed moorings will support evaluation of the outer coast as critical habitat for the Southern Resident killer whales. This research is supported by funding from the U.S. Navy. Mooring locations were selected based on scientific needs and placement to minimize interaction with commercial fishing activity. Consultations were completed with Coastal Treaty Tribes and various non-tribal commercial fishing representatives to identify low-risk locations for mooring deployments.

**OCNMS-2014-008** – Evan Solomon, University of Washington, School of Oceanography

**Project Title:** Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope.

**Permitted Activity:** Disturbance of the seafloor from collection of 3-inch diameter piston cores from the upper 9m of the sediment column

**Project Location:** Near the Quinault Canyon

**Permit Duration:** October 10-31, 2014

**Comment:** Although most of the survey area is beyond sanctuary waters, some core stations within the 450 to 550 meter

depth interval may occur in the sanctuary near the Quinault Canyon. Core stations will be identified during the survey based on locations of gas seep sites.

**OCNMS-2014-009** – Shawn Larson, Seattle Aquarium

**Project Title:** Fall-Winter 2014-2015 Aerial Survey of Washington Sea Otters, *Enhydra lutris*.

**Permitted Activity:** low altitude overflight within OCNMS' overflight restriction zone with a minimum altitude of 800 feet above ground/water level

**Project Location:** Coastal waters of OCNMS, north of the Copalis River to Koitlah Point in the Strait of Juan de Fuca.

**Permit Duration:** NA – application withdrawn

**Comment:** This permit application was for one low altitude overflight to document the winter distribution of sea otters off Washington to assist with selection of land-based observation sites for analysis of diet and energy budgets. Consultations with WDFW and USFWS revealed that WDFW plans to conduct an early winter aerial survey under an existing permit. Data from this effort will be shared with Dr. Larson and will provide her the information needed. Consequently, Dr. Larson's application was withdrawn.

### Pending Permit Requests

**OCNMS-2014-003** – Joe Evenson, Washington Department of Fish and Wildlife

**Project Title:** WDFW/PSEMP Annual Winter Aerial Survey of Marine Birds and Mammals

**Permitted Activity:** low altitude overflight within the overflight restriction zone of Olympic Coast National Marine Sanctuary

**Project Location:** over waters of the Olympic Coast National Marine Sanctuary between Koitlah Point and Cape Flattery

**Permit Duration:** to be determined; probably a 5-year permit pending further discussion with WDFW.

**Comment:** This permit has not been processed because there are ongoing discussions about additional winter seabird survey work, and flights in Juan de Fuca Strait that this permit request covers are not planned until 2015.

## REGIONAL / NATIONAL MARINE SANCTUARY SYSTEM ONMS NEWS

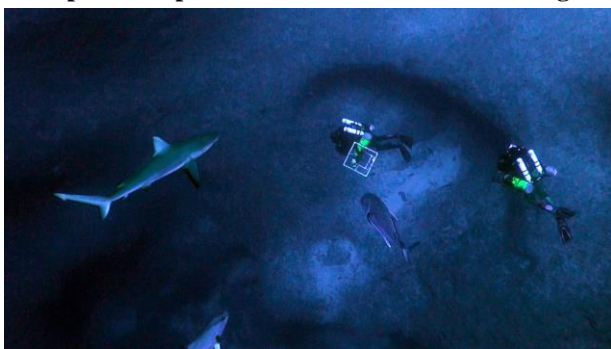
### Earth Is Blue Campaign Launches on 42nd Anniversary of ONMS

On October 23, NOAA's Office of National Marine Sanctuaries launched the "Earth Is Blue" social media campaign, kicking off a new effort to share the beauty and wonder of the sanctuaries with the world through powerful photos and video imagery. The start of the campaign included the debut of the ONMS Instagram account, which will be sharing a new photo every day from across the National Marine Sanctuary System. Sanctuary outreach staff will also be producing a video a week highlighting the resources, places and people that make sanctuaries worth protecting.

### NOAA and Partners Explore Deep Ocean in Proposed Expansion Areas of West Coast National Marine Sanctuaries

NCCOS scientists and their partners explored deep-water reaches in the proposed expansion areas of the Cordell Bank and the Gulf of the Farallones national marine sanctuaries to establish a baseline understanding of new habitats and species that may soon come under sanctuary jurisdiction. Using a video camera on a remotely operated vehicle (ROV), the team surveyed Bodega Canyon, about 25 miles west of Bodega Bay, and an area just north of the canyon known as the "Football." With the ROV deployed to depths of 300 meters (984 feet), the researchers observed sponges, sea whip corals, corallimorphs (coral anemones), flatfish, rockfish, and rock prawns. A benthic characterization report will be available next year, which will include maps, observations, images, and counts of animals at these sites.

### Mesophotic Expedition Returns from Conducting Research in Papahānaumokuākea

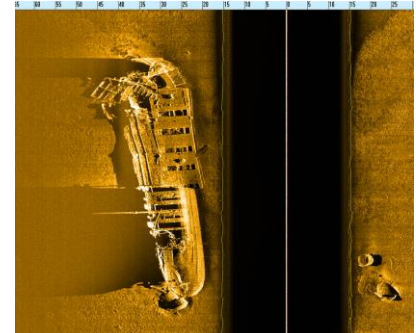


In late September scientists returned from a 25-day research expedition aboard NOAA Ship *Hi'ialakai* to explore the deep reefs of Pacific Remote Islands Marine National Monument (PRIMNM). The team visited French Frigate Shoals, Lisianski Island, Pearl and Hermes Atoll and Midway Atoll, using advanced Closed-Circuit Rebreather (CCR) diving technology to survey mesophotic coral ecosystems, deep coral reefs at depths between 180 and 300 feet. This expedition marked the deepest dives ever conducted by NOAA scientists on CCRs. Numerous unidentified organisms including sea cucumbers, sea urchins, algae and fish were collected. Scientists believe it is highly likely that many of these constitute undescribed species which are completely new to

science. Several other studies were undertaken during the expedition. Scientists from the Hawai'i Institute of Marine Biology (HIMB) conducted coral disease and bleaching assessments, documenting moderate to major coral bleaching at Lisianski Island and several neighboring atolls. Other researchers from HIMB tagged sharks and ulua (jacks), and deployed/recovered underwater acoustic receivers that listen for tagged predators. A scientist from NOAA Fisheries deployed Baited Remote Underwater Video Stations, deep-water drop cams that filmed and measured sharks, jacks and other predators on mesophotic reefs in the Monument. The scientific team included researchers from Papahānaumokuākea Marine National Monument, NOAA's Pacific Islands Fisheries Science Center, the Hawai'i Institute of Marine Biology, and the Bernice P. Bishop Museum. A media event at the return of the expedition yielded wide coverage in local and international news outlets, including a cover spread in Honolulu's Star Advertiser.

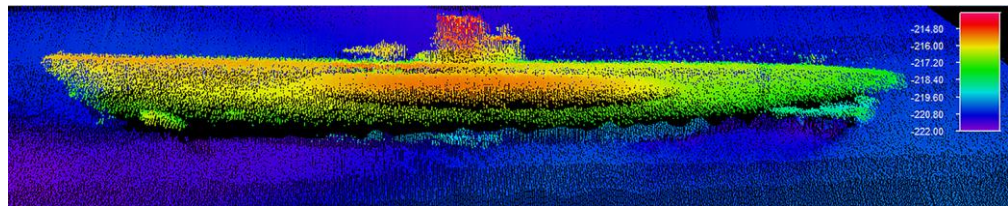
### Thunder Bay National Marine Sanctuary and U.S. Coast Survey Conduct High Resolution Sonar Survey

In partnership with NOAA's Office of Coast Survey, Thunder Bay National Marine Sanctuary (TBNMS) used a 900 kHz Klein 3900 side scan sonar to survey known wreck sites within the sanctuary. Operating off the R/V *Storm*, Thunder Bay archaeologists were able to image 26 wrecks in three days in depths ranging from 10' to 180' including the *Bay City*, *Bissel*, *Shamrock*, *Warner*, Unknown Breakwater Wreck, *Rend*, Unknown Isaacson Bay Barge, *Heart Failure*, *Haltiner Barge*, *Barge No. 1*, NOAA-2-388-Schooner, *Montana*, *Carbide Barge*, *Grecian*, *Flint*, *Monohansett*, *Davidson* main hull and side, *Thew*, *Parks*, *Van Valkenburg*, *DM Wilson*, *Ogarita*, *Barge 12*, *EB Allen*, *Monrovia*, and *Pewabic*. The high resolution of the 3900 side scan sonar allowed TBNMS archeologists to quickly inspect the wrecks and their surrounding environment, providing data to aid in their management and as an outreach tool.



### Discovery of WWII-Era Wrecks U-576 and *Bluefields* Announced by NOAA

After years of careful planning and coordination, NOAA announced on October 21 that it had discovered two vessels lost during the World War II Battle of the Atlantic off the



coast of North Carolina. Located nearly 30 miles off the coast of Cape Hatteras, both vessels rest at about 700 feet depth of water. The U-576 is the fourth and final German U-boat known to have sunk off the coast of North Carolina during World War II, and the *Bluefields* was a Nicaraguan vessel the U-576 torpedoed before it too sunk to a watery grave. The two vessels represent a nationally significant underwater battlefield and will provide maritime archaeologists with valuable insight into this chapter of our nation's history, maritime conflict, and the cultural landscape of coastal North Carolina.

### MPA Center Releases Updated Framework for National System of MPAs for Public Comment

The National Marine Protected Areas (MPAs) Center has published an updated Framework for the National System of Marine Protected Areas of the United States for public comment until December 27. First published in 2008, the Framework provides overarching guidance on the development and implementation of the National System. The purpose of the National System is to build management capacity among MPA programs, coordinate collaborative efforts to address common management issues and identify ecosystem-based gaps in the protection of significant natural and cultural resources for possible future action by the nation's MPA authorities. The Updated Framework was developed by the MPA Center in close consultation with staff at the National Park Service, the U.S. Fish and Wildlife Service and NOAA Fisheries. It uses experience gained implementing the National System and advice from the MPA Federal Advisory Committee (FAC) and MPA programs. For more information visit <http://marineprotectedareas.noaa.gov>.

## MARINE-RELATED NEWS COVERAGE

### U.S. Initiates Prototype System to Gauge National Marine Biodiversity

NOAA, NASA and the Department of the Interior's Bureau of Ocean Energy Management (BOEM) have joined together to support three demonstration projects that will lay the foundation for the first national network to monitor marine biodiversity at scales ranging from microbes to whales.

[www.noaanews.noaa.gov/stories2014/20141006\\_boem.html](http://www.noaanews.noaa.gov/stories2014/20141006_boem.html)

### **Obama to Expand Ocean Preserve to Six Times the Size**

President Barack Obama is carving out a wide swath the Pacific Ocean for an expanded marine preserve, putting the waters off-limits to drilling and most fishing in a bid to protect fragile underwater life.

[bigstory.ap.org/article/2d0db590927146e28f12f8964f15706a/obama-expand-ocean-preserve-6-times-size](http://bigstory.ap.org/article/2d0db590927146e28f12f8964f15706a/obama-expand-ocean-preserve-6-times-size)

### **Surprisingly Good News: Many Young Murres Are Dying**

The large number of dead birds that have recently been washing up on area beaches is actually a promising sign of recovery for the population of Common Murres.

[www.chinookobserver.com/co/news/20141007/surprisingly-good-news-many-young-murrs-are-dying](http://www.chinookobserver.com/co/news/20141007/surprisingly-good-news-many-young-murrs-are-dying)

### **Northwest Tribes Celebrate Highest Fall Fish Returns to Columbia River Basin in 75 Years**

Columbia River Intertribal Fish Commission (CRITFC) announced in September that the fall Chinook salmon return is on track to blast through previous records, with this year surpassing even last year's.

[indiancountrytodaymedianetwork.com/2014/10/06/northwest-tribes-celebrate-highest-fall-fish-returns-columbia-river-basin-75-years-critfc](http://indiancountrytodaymedianetwork.com/2014/10/06/northwest-tribes-celebrate-highest-fall-fish-returns-columbia-river-basin-75-years-critfc)

### **Un-Build It, and They Will Come: With Dams Gone, Chinook Return to Upper Elwha**

Two years ago Chinook salmon made a triumphant return to the lower Elwha River just six months after the dam of the same name was demolished. Now they have been spotted spawning in the upper Elwha, for the first time in 102 years.

[indiancountrytodaymedianetwork.com/2014/10/09/un-build-it-and-they-will-come-dams-gone-chinook-return-upper-elwha-video-157262](http://indiancountrytodaymedianetwork.com/2014/10/09/un-build-it-and-they-will-come-dams-gone-chinook-return-upper-elwha-video-157262)

### **Fattened Gray Whales in Low-Ice Arctic Set to Journey South**

In the coming weeks, more than 20,000 gray whales will begin their annual two-month, 5,000-mile journey south from the Arctic Circle to warm lagoons off Baja California, Mexico.

[www.kpbs.org/news/2014/oct/13/fattened-gray-whales-low-ice-arctic-set-journey-so](http://www.kpbs.org/news/2014/oct/13/fattened-gray-whales-low-ice-arctic-set-journey-so)

### **Fish Are Relocating Toward The Poles To Avoid Warming Waters**

A new study published in the ICES Journal of Marine Science looked at historical data for more than 800 commercial fisheries around the world and found that fish are heading to deeper waters and higher latitudes as the world's oceans warm.

[kuow.org/post/fish-are-relocating-toward-poles-avoid-warming-waters](http://kuow.org/post/fish-are-relocating-toward-poles-avoid-warming-waters)

### **Five Acre Students Explore the Ocean from Inside Out**

Middle school students from Five Acres School collaborated with Heidi Pedersen, citizen science coordinator for the Olympic Coast National Marine Sanctuary to conduct hands-on outdoor ocean education with marine debris beach monitoring at Dungeness Spit.

[www.sequimgazette.com/community/279299772.html](http://www.sequimgazette.com/community/279299772.html)

### **Registration Open for Student Robotics Class at Feiro Marine Life Center**

Feiro Marine Life Center is offering a robotics class for middle and high school students as an after-school club to participate in designing and building remotely operated submarine vehicles (ROVs).

[www.peninsuladailynews.com/article/20141009/news/310099995/registration-open-for-student-robotics-class-at-feiro-marine-life](http://www.peninsuladailynews.com/article/20141009/news/310099995/registration-open-for-student-robotics-class-at-feiro-marine-life)

### **Coast Savers Makes a Difference at International Coastal Cleanup**

Washington CoastSavers announced that more than 500 volunteers participated in the 2014 International Coastal Cleanup on September 20 along the outer coast and into the Strait of Juan de Fuca.

[www.ptleader.com/news/coast-savers-makes-a-difference-at-international-coastal-cleanup/article\\_c4550968-4e8b-11e4-afbc-001a4bcf6878.html](http://www.ptleader.com/news/coast-savers-makes-a-difference-at-international-coastal-cleanup/article_c4550968-4e8b-11e4-afbc-001a4bcf6878.html)

### **Oregon Divers Find Hope in Thousands of Baby Sea Stars**

Divers at the Oregon Coast Aquarium say they have new hope that sea stars will recover from the widespread wasting syndrome that's wiping them out all along the Pacific coast.

[kuow.org/post/oregon-divers-find-hope-thousands-baby-sea-stars](http://kuow.org/post/oregon-divers-find-hope-thousands-baby-sea-stars)



### 'A Day in the Life of Lolita' Sheds Light on Orca's Plight

The eight-minute film follows renowned marine biologist, Dr. Ingrid Visser, into Miami's Seaquarium, at the 2014 Big Apple Film Festival in New York City. Lolita is a southern resident orca whale in captivity there for the last 44 years.

[www.sanjuanjournal.com/news/279926462.html](http://www.sanjuanjournal.com/news/279926462.html)

### Baby Orca Missing in Puget Sound and Presumed Dead

Orca enthusiasts rejoiced when a newborn calf was spotted 7 weeks ago, the first calf born in the past 2 years. But the endangered killer whale calf has not been seen again recently. The mother of the calf L120 was spotted three times in mid-October without her baby.

[kuow.org/post/baby-orca-missing-puget-sound-and-presumed-dead](http://kuow.org/post/baby-orca-missing-puget-sound-and-presumed-dead)

### Elwha River Mouth Grows as Sediment Creates New Habitat, Estuaries

Sediment once locked behind two dams has built some 70 acres of new estuary at the mouth of the Elwha River since 2011, according to the Coastal Watershed Institute.

[www.peninsuladailynews.com/article/20141102/NEWS/311029941/elwha-river-mouth-grows-as-sediment-creates-new-habitat-estuaries](http://www.peninsuladailynews.com/article/20141102/NEWS/311029941/elwha-river-mouth-grows-as-sediment-creates-new-habitat-estuaries)

### State Ecology At Odds With Gov. Inslee on Ocean Acidification

Gov. Inslee claims that ocean acidification levels are harming oyster populations while state Department of Ecology claims there is not enough evidence to prove that.

[tdn.com/news/local/state-ecology-staff-at-odds-with-gov-inslee-on-ocean/article\\_23d8a00a-5ff5-11e4-aea9-370bfa96fcb8.html](http://tdn.com/news/local/state-ecology-staff-at-odds-with-gov-inslee-on-ocean/article_23d8a00a-5ff5-11e4-aea9-370bfa96fcb8.html)

## OCNMS ONLINE

Visit our website at <http://olympiccoast.noaa.gov/>

Follow us on Facebook and Twitter!

<https://www.facebook.com/usolympiccoastgov>

*Please take a few moments to peruse the site. Your feedback is greatly appreciated.*

*Comments and suggestions can be sent to [Jacqueline.Laverdure@noaa.gov](mailto:Jacqueline.Laverdure@noaa.gov).*

---

---

## FUN, OCEAN-RELATED WEBSITES

National Oceanic & Atmospheric Administration

<http://www.noaa.gov/>

National Ocean Service

<http://www.nos.noaa.gov/>

Office of National Marine Sanctuaries

<http://www.sanctuaries.nos.noaa.gov/>

NOAA Marine Debris Program

<http://marinedebris.noaa.gov/>

NOAA Online Media Library

<http://sanctuaries.noaa.gov/photos>

Encyclopedia of National Marine Sanctuaries

<http://www8.nos.noaa.gov/onms/park/>

NOAA Ocean Explorer

<http://oceanexplorer.noaa.gov/>

National Data Buoy Center

<http://www.ndbc.noaa.gov/rmd.shtml>

Washington's Ocean Resources

<http://www.ecy.wa.gov/programs/sea/ocean/index.html>

CoastWatch – West Coast Regional Node

<http://coastwatch.pfel.noaa.gov/>

Northwest Association of Networked Ocean Observing Systems

<http://www.nanoos.org/>

NOAA's Pacific Marine Environmental Laboratory

<http://www.pmel.noaa.gov/>



## OLYMPIC COAST NATIONAL MARINE SANCTUARY

### Learn More about Your Sanctuary

The Sanctuary Office Report is produced bi-monthly by the Olympic Coast National Marine Sanctuary in conjunction with Sanctuary Advisory Council meetings. To learn more about the Sanctuary please visit our website at <http://www.olympiccoast.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit:  
[http://olympiccoast.noaa.gov/involved/sac/sac\\_welcome.html](http://olympiccoast.noaa.gov/involved/sac/sac_welcome.html)

### Office of National Marine Sanctuaries (ONMS)

The Olympic Coast National Marine Sanctuary is one of 14 marine protected areas in the National Marine Sanctuary System encompassing more than 176,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. Visit the ONMS website at: <http://www.sanctuaries.nos.noaa.gov/>

### Get Involved!

To learn how to get involved in the Sanctuary visit:  
<http://olympiccoast.noaa.gov/involved/welcome.html>

## OCNMS Staff

**Carol Bernthal**– Superintendent

**George Galasso**– Deputy Superintendent for Policy & Programs

**Kevin Grant**– Deputy Superintendent for Operations & Administration

**Liam Antrim**– Resource Protection Specialist

**Ed Bowlby**– Research Coordinator

**Jennifer Bright**– Research Technician

**Justin Ellis**– NOAA Corps Officer, Marine Operations

**Eric Evans**– IT Consultant

**Rick Fletcher**– R/V *Tatoosh* Captain, Research Program Support

**Carey Floyd**– Graphic and Web Designer

**Nicole Harris**– Education Specialist

**Kathy Hough**– Survey Technician

**Norma Klein**– Office Administrator

**Karlyn Langjahr**– AC Coordinator & Discovery Center Manager

**Jacqueline Laverdure**– Acting Education and Outreach Coordinator

**Danny Palmer**– Education and Stewardship Specialist

**Heidi Pedersen**– Citizen Science Coordinator

**Robert Rountree**– Visitor Services Specialist

**Nancy Wright**– Geographer

### Contact Information Olympic Coast National Marine Sanctuary

115 East Railroad Ave., Suite 301  
Port Angeles, WA 98362  
Phone (360) 457-6622  
Fax (360) 457-8496

